

CLAIMS

What is claimed is:

1. A system that effectuates receive diversity within a mobile communication
5 device, comprising:
a first antenna that facilitates reception of signals in at least one of a PCS band, a cellular band, a Korean PCS band, and a China PCS band; and
a second antenna that facilitates reception of signals in a GPS band and at least
10 one of the bands received by the first antenna, wherein tuning of the second antenna depends upon a signal type relayed to the second antenna.
2. The system of claim 1, the second antenna is selectively tuned to receive signals
in at least one of the bands received by the first antenna when reception of signals in a
GPS band is not desirable.
- 15 3. The system of claim 1, the second antenna is a top-mounted inverted F-antenna.
4. The system of claim 3, the top-mounted inverted F-antenna exhibits circular
polarization characteristics.
- 20 5. The system of claim 1, further comprising:
a first tuning component that facilitates tuning the second antenna for reception of
signals in a GPS band; and
a second tuning component that facilitates tuning the second antenna for reception
25 of signals in at least one of the bands received by the first antenna.
6. The system of claim 5, further comprising a RF switch that facilitates coupling the
second antenna to one of the first tuning component and the second tuning component.

7. The system of claim 5, the RF switch being one of a PIN-diode, a MEMS switch, and a FET switch.

8. The system of claim 1, further comprising:

5 a first receiving component that facilitates at least one of transduction, modulation, and processing of a signal in at least one of the bands received by the first antenna; and

a second receiving component that facilitates at least one of transduction, modulation, and processing of a GPS signal.

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9. The system of claim 8, further comprising a RF switch that facilitates coupling the second antenna to one of the first receiving component and the second receiving component.

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10. The system of claim 9, the RF switch being one of a PIN-diode, a MEMS switch, and a FET switch.

11. The system of claim 1, further comprising a component that determines frequency of a signal desirably received by the second antenna.

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12. The system of claim 1, further comprising an emergency component that automatically configures the second antenna to receive a GPS signal upon transmitting data to an emergency number.

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13. A mobile telephone comprising the system of claim 1.

14. The system of claim 1, the second antenna comprising a radiating antenna element that is coupled to a transmission line, wherein length of the transmission line is selectable between at least two lengths.

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15. The system of claim 1, the second antenna being at least one of a PIFA antenna, whip antenna, microstrip antenna, L-plane antenna, monopole antenna, E-plane antenna, dielectric resonator antenna, and helix antenna.

5 16. The system of claim 1, further comprising:

a first switch that couples one of a first tuning component and a second tuning component to the second antenna, wherein the first tuning component facilitates reception of a GPS signal on the second antenna and the second tuning component facilitates reception of a signal in at least one of the bands received by the first antenna on the
10 second antenna;

a second switch that couples one of a first receiving component and a second receiving component to the second antenna, wherein the first receiving component facilitates one of transduction, modulation, and processing of a GPS signal and the second receiving component facilitates one of transduction, modulation, and processing
15 of a signal in at least one of the bands received by the first antenna; and

a control component that relays commands to at least one of the first switch and second switch to facilitate a desirable coupling, the coupling based at least in part upon a type of signal desirably received by the second antenna.

20 17. A method for effectuating receive diversity within a mobile communication device, comprising:

providing a first antenna that facilitates reception of a signal in at least one of a PCS band, a cellular band, a Korean PCS band, and a China PCS band;

providing a second antenna that facilitates reception of a signal in a GPS band;

25 determining whether a signal in a GPS band is desirably received by the second antenna; and

tuning the second antenna to facilitate reception of a signal in at least one of the bands received by the first antenna if reception of a signal in a GPS band is not desirable.

30 18. The method of claim 17, further comprising altering a length of a transmission line associated with the second antenna to tune the second antenna.

19. The method of claim 17, further comprising altering an electrical length of a resonating element associated with the second antenna to tune the second antenna.

5 20. The system of claim 17, further comprising tuning the second antenna to receive a signal in a GPS band if a signal in a GPS band is desirably received by the second antenna.

10 21. A method for modifying a mobile communication device to enable receive diversity, comprising:

providing a mobile communication device that includes a first antenna tuned to receive a signal in at least one of a PCS band, a cellular band, a Korean PCS band, and a China PCS band, and a second antenna tuned to receive a signal in a GPS band;

coupling the second antenna to a first switch;

15 further coupling the first switch to one of a first tuning circuit that facilitates tuning the second antenna for reception of a signal in a GPS band and a second tuning circuit that facilitates tuning the second antenna for reception of a signal in at least one of the bands received by the first antenna;

coupling the second antenna to a second switch; and

20 further coupling the second switch to one of a first receiving component that facilitates one of processing, transduction, and modulation of a signal in a GPS band and a second receiving component that facilitates one of processing, transduction, and modulation of a signal in at least one of the bands received by the first antenna.

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22. A system that enables receive diversity to be existent within a mobile communication device, comprising:

means for configuring a first antenna to receive data in at least one of a PCS band, a cellular band, a Korean PCS band, and a China PCS band;

5 means for configuring a second antenna to receive one of data in at least one of the bands received by the first antenna and GPS data at a particular instance, the configuring of the second antenna based at least in part upon a type of signal desirably received by the second antenna.

10 23. The system of claim 22, the second antenna being a top-mounted inverted F antenna.

24. A system that facilitates receive diversity within a mobile communication device, comprising:

15 a first antenna that facilitates reception of signals in at least two frequency bands;
a second antenna that facilitates reception of signals in a GPS band and at least one of the frequency bands received by the first antenna; and

a tuning component that dynamically tunes the second antenna to the frequency currently received by the first antenna for at least one frequency band when reception of a
20 GPS signal is not desirable.

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